AMSAT News Service Weekly Bulletins
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SB SAT @ AMSAT $ANS-310.01
DOVE-OSCAR-17 RETURNS TO 2M!

HR AMSAT NEWS SERVICE BULLETIN 310.01 FROM AMSAT HQ
SILVER SPRING, MD NOVEMBER 6, 1993
TO ALL RADIO AMATEURS BT
BID: $ANS-310.01

DOVE-OSCAR-17 (DO-17) Returns To 2M: DOVE RECOVERY BEGINS!

DOVE is currently up and running on 2M. It is sending normal ASCII telemetry and a short text bulletins on 145.825 MHz. A very quick look at telemetry indicates the spacecraft is basically healthy. The DOVE Recovery Team of Bob Diersing (N5HAD), Bill McCaa (K0RZ), and Jim White (WD0E) have been working very intensively for about 10 days to create and test new software that allowed automated software loading via 2M in a half-duplex mode. This replaces the "ear-ack on S-Band" method N4HY had used in the past that was so difficult as to be a barrier to recovery.

WD0E and the DOVE Recovery Team would like to receive telemetry reports. Please send them to vk7zbx@KO-23, @AO-16 or on INTERNET to vk7zbx@amsat.org or to wd0e@amsat.org, or to the CompuServe address of 71477,546. The most recent version of TLMDCII (3-8-92) will decode and record DOVE telemetry very nicely. For more information about obtaining a copy of the TLMDC program, contact AMSAT-NA HQs at (301) 589-6062. After the DOVE Recovery Team is sure the satellite is stable in this configuration and the RF transmitter power targets are established, the next step will be to load up through PHTX and test the voice module. Depending on the condition of the spacecraft and other issues, this could take several weeks.

WD0E would like to express sincere thanks to Bob Diersing for all of his hard work creating a RAM loader, and Bill McCaa for the many passes of S-band and two meter receive he provided (often late into the night). It could not have been done without their enthusiastic efforts. Also, thanks to Harold Price (NK6K) for providing the the developement system hardware, software, and a good deal of coaching. His contributions were invaluable.

Given a reasonably healthy satellite, WD0E is confident we can make DOVE talk as he described at the AMSAT-NA Space Symposium in Dallas a few weeks ago.

[The AMSAT News Service (ANS) would like to thank Jim White (WD0E) for this bulletin item. If you would like to send DOVE telemetry to Jim, again, his INTERNET address is wd0e@amsat.org and his CompuServe address is 71477,546.]

/EX
SB SAT @ AMSAT $ANS-310.02
ITAMSAT-OSCAR-26 STATUS REPORT

HR AMSAT NEWS SERVICE BULLETIN 310.02 FROM AMSAT HQ
SILVER SPRING, MD NOVEMBER 6, 1993
TO ALL RADIO AMATEURS BT
BID: $ANS-310.02

IW3QOK Provides An Update On ITAMSAT-OSCAR-26 (IO-26)

First of all IW3QOK wants to apologize to all those who have sent their status reports and telemetry data about IO-26 satellite to him without

having had any response come back from him. IW3QOK reports that he has not enough time to read all the messages to answer each individually, nor to follow the all the discussions concerning IO-26. For those who have sent in these telemetry and status reprots to IW3QOK, he notes that he has found them to be quite invaluable and they contribute greatly to making IO-26 an even more interesting and useful satellite from the user's point of view.

The telemetry data received so far shows that all systems are working properly and that IO-26 is presently in a good health. The Bulletin Board System (BBS) has been opened, as the most of you already know, and the number of users of IO-26 is growing rapidly as each day passes.

It is well known that IO-26 is presently in a state of low power consumption, and consequently the RF power output from the transmitter is about 250 mW. This is NOT a problem, but has been implemented because of battery considerations and also because its signal is already very good and quite readable. Two days ago an Italian command station, in Milano, increased the RF output power of the 70cm transmiter to its maximum value (approx. 4W) as a test for a few minutes. Everything worked fine during this test. The Battery Charge Regualator (BCR) is working well and the solar panels are charging the batteries regularly. Recently IW3QOK received some questions about why the array voltage was so low (around 11V) with respect to the other MICROSATs. The answer is very simple: IO-26 uses highly efficient solar array panels that have a lower voltage than those used on the other MICROSATs so it is not necessary for you to worry about this issue. Another question which IW3QOK receives many inquiries about is the very high value presented by the Error Detection And Correction (EDAC) telemetry counter. His theory is that there must be a little "bug" in the telemetry sofware and ITAMSAT's main working group (in Milano) is already working to solve this problem.

>From all the very interesting telemetry data IW3QOK has received from many countries, it has been possible to understand that the IO-26's spacecraft attitude and to see that its motion is quite predictable. The results will be presented soon in a readable form. All IO-26 users are invited to download the Whole Orbit Data (WOD) and analyze it. The downloading of this WOD file is simple and one can easily deduce the spacecraft's motion by examining carefully the telemetry items related to the solar array currents or voltages using any common spreadsheet program, such as, Excel, Lotus 123, or QuattroPro. By graphing these telemetry items, one can easily see how these currents or voltages behave as the spacecraft attitude rotates as goes into and out of eclipses.

Again IW3QOK would like thank all those who have sent him telemetry and it is his hope that you will continue to enjoy using IO-26.

[The AMSAT News Service (ANS) would like to thank IW3QOK for this bulletin item.]

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SB SAT @ AMSAT $ANS-310.03
AMSAT OPS NET SCHEDULE

HR AMSAT NEWS SERVICE BULLETIN 310.03 FROM AMSAT HQ
SILVER SPRING, MD NOVEMBER 6, 1993
TO ALL RADIO AMATEURS BT
BID: $ANS-310.03

Current AMSAT Operations Net Schedule For AO-13

AMSAT Operations Nets are planned for the following times. Mode-B Nets are conducted on AO-13 on a downlink frequency of 145.950 MHz. If, at the start of the OPS Net, the frequency of 145.950 MHz is being used for a QSO,

OPS Net enthusiasts are asked to move to the alternate frequency of 145.955 MHz.

Date	UTC	Mode	Phs	NCS	Alt NCS
13-Nov-93	1230	B	146	VE2LVC	W5IU
28-Nov-93	0230	B	39	WJ9F	VE2LVC
12-Dec-93	0435	B	180	W9ODI	WB6LLO

Any stations with information on current events would be most welcomed. Also, those interested in discussing technical issues or who have questions about any particular aspect of OSCAR statellite operations, are encouraged to join the OPS Nets. In the unlikely event that either the Net Control Station (NCS) or the alternate do not call on frequency, any participant is invited to act as the NCS.

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Slow Scan Television on AO-13

SSTV sessions will be held on immediately after the OPS Nets a downlink on a Mode-B downlink frequency 145.960 MHz.

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SB SAT @ AMSAT $ANS-310.04
WEEKLY OSCAR STATUS REPORTS

HR AMSAT NEWS SERVICE BULLETIN 310.04 FROM AMSAT HQ
SILVER SPRING, MD NOVEMBER 6, 1993
TO ALL RADIO AMATEURS BT
BID: $ANS-310.04

Weekly OSCAR Status Reports: 06-NOV-93

AO-13: Current Transponder Operating Schedule:
M QST *** AO-13 TRANSPONDER SCHEDULE *** 1993 Oct 25-Nov 15
Mode-B : MA 0 to MA 130 !
Mode-BS : MA 130 to MA 180 !
Mode-S : MA 180 to MA 205 !<- S transponder; B trsp. is OFF
Mode-S : MA 205 to MA 210 !<- S beacon only
Mode-BS : MA 210 to MA 226 ! Blon/Blat 210/0
Omnis : MA 240 to MA 80 ! Move to attitude 240/0, Nov 15
Please don't uplink to Mode-B between MA 180-205 as this interferes with Mode-S transponder operations. Continuous up-to-date information about AO-13 operations is always available on the beacons at 145.812 MHz and 2400.646 MHz in CW, RTTY and 400 bps PSK. Also, these bulletins are also posted to INTERNET, ANS bulletins, Packet, PACSATs, as well as many international newsletters. In additional notes about AO-13, G3RUH reports the following: the partial solar eclipse of 13-NOV-93 [Sat] (visible from Antarctica) also affects AO-13. AO-13 will see the Moon eclipse the Sun from 13:33 - 15:13 UTC with a maximum of 89% obscuration at 14:16 UTC. This will be Orbit 4148, with MA 171-208. The encounter will be "visible" on the spacecraft telemetry to stations in the entire Pacific area, Australia and Japan, and the US west coast. US stations east of Salt Lake City will have LOS during the encounter, seeing less the further east they are. AO-13 is not in view of Europe at this time. It will not be necessary to shut down the transponders on this occasion because Mode-S is ON, and consumes little power. The 145 MHz telemetry beacon will be available up to MA 205 and will continue on S-band. The Whole Orbit Data (WOD) collection facility will dwell on battery voltage at 1 MA intervals. On the issue of Solar Eclipses by the sun: these commence on 07-DEC-1993 [Tue] and continue until 24-DEC-93 [Fri]. These eclipses are of course total. The maximum lasts 136 minutes, and is the longest AO-13 has ever experienced. The Mode-B transponder will be OFF from MA 95 to 180 during this two week period. The

WOD collection facility will dwell on interesting sensor points. Anybody requiring a specific value to be monitored should contact a command station with details of parameter wanted, start time, and MA interval. Up to 384 samples can be taken per K-block. [G3RUH/DB2OS/VK5AGR]

DOVE: DO-17 currently sending AX.25 packet telemetry on a downlink frequency of 145.825 MHz. [WD0HHU]

AO-16: Operating normally. [WH6I]

UO-22: Operating normally. [WH6I]

LO-19: Operating normally. [WH6I]

KO-23: Up and running. Busy as usual. [WH6I]

KO-25: File system is up but not open for uploads. It appears that the satellite has taken an EIS image but it is not available. [WH6I]

AO-27: No information received but it is assumed that this spacecraft is still in the testing phase. ANS will present further information when received. [W3XO]

IO-26: Up and running with a lot of activity. The signal is weaker than AO-16 or LO-19 but good throughput is still possible. The following table is just a "quick-review" of the IO-26 frequencies: TXA PSK= 435.867 MHz, TXB PSK/FM=435.827 MHz, RX #1=145.875 MHz, RX #2= 145.900 MHz, RX #3=145.925 MHz, RX #4=145.950 MHz. [IK2OVV]

FO-20: The following is the transponder operating schedule for the month of November and December:

ANALOG Mode-J Voice & CW Operations:
10-NOV-93 09:23 -TO- 11-NOV-93 07:51 UTC
17-NOV-93 07:44 -TO- 18-NOV-93 08:15 UTC
24-NOV-93 08:20 -TO- 25-NOV-93 08:38 UTC
01-DEC-93 08:43 -TO- 08-DEC-93 07:16 UTC
15-DEC-93 07:41 -TO- 22-DEC-93 08:05 UTC

Please note that that at all other times FO-20 will be in the digital BBS mode. In December, the analog transponder and digital transponder will each be turned-on for a week period, ALTERNATELY! For those who want to try working FO-20 in the voice mode the following are the passband frequencies of the analog transponder: Uplink passband: 145.900 MHz --> 146.000 MHz. Downlink passband: 435.900 MHz --> 435.800 MHz. The telemetry beacon can be heard at 435.795 MHz. The analog transponder inverts all up-linked signals. LSB on the uplink becomes USB on the downlink. A signal in the lower portion of the uplink passband appears in the upper portion of the downlink passband. For more information, see the September QST, p 104. [JJ1WTK/3]

The AMSAT NEWS Service (ANS) is looking for volunteers to contribute weekly OSCAR status reports. If you have a favorite OSCAR which you work on a regular basis and would like to contribute to this bulletin, please send your observations to WD0HHU at his CompuServe address of 70524,2272, on INTERNET at wd0hhu@amsat.org, or to his local packet BBS in the Denver, CO area, WD0HHU @ W0LJF.#NECO.CO.USA.NOAM. Also, if you find that the current set of orbital elements are not generating the correct AOS/LOS times at your QTH, PLEASE INCLUDE THAT INFORMATION AS WELL. The information you provide will be of value to all OSCAR enthusiasts.

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